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ABSTRACT

This resource unit for use in Grade Nine is designed to develop specific generalizations about the American market economy. The core of activities centers around a series of economic simulation games. The concepts and generalizations which are introduced in this unit are expanded upon and developed more thoroughly in later units in this curriculum plan. Objectives which outline the desired concepts, generalizations, skills, and attitudes to be attained in the study are given and suggested teaching procedures are detailed. Information sources for use with the unit are noted. Three simulation games which focus on the competitive market and wage bargaining between farmers and laborers are included. Related documents are: SO 005 451 through SO 005 453 and SO 005 455 through SO 005 457. (SHM)

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Grade Nine
Unit Two: The American Economy

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SP005454

RESOURCE UNIT 2

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INTRODUCTION

Whereas Unit One was designed as an overview for a year's study of economics, Unit Two is designed to develop specific generalizations about the American market economy. The core of activities for Unit Two centers around a series of economic simulation games. By using the discussion following the playing of each game, the teacher should be able to develop an understanding of the characteristics of the American economic system.

Teachers should note that there is no outline of content for Unit II. The simulation games can be used to teach so many concepts and generalizations, that it is almost impossible to develop a logical outline of content, part of which will be developed by one set of activities, part by another. Teachers should pay careful attention to the concepts and generalizations toward which each activity is directed. These are listed opposite the activity in column one. All of the objectives are grouped together at the beginning of the unit.

This unit is relatively short. The teacher should realize that the concepts and generalizations introduced in this unit are expanded upon and developed far more thoroughly in later units in connection with specific topics. For example, the concepts related to demand, supply, market, price, profit, competion, and production are emphasized in connection with the farm problem in Unit Three. Many of them are also taught in the unit on the Auto Industry. In one sense, therefore, this unit, like Unit One, serves as an overview of ideas to be taught in much more depth in later units. Teachers have found that pupils return over and over again throughout the year to the ideas they gained from playing the simulation games.

OBJECTIVES

This unit should make progress toward developing the following:

CONCEPTS

1. Production
2. Demand
3. Supply
4. Market
5. Price
6. Profit
7. Law of diminishing returns
8. Competition
9. Collusion
10. Bargaining
11. Employment
12. Unemployment

GENERALIZATIONS

1. Economic models simplify the economy to make it easier to understand.

2. The American economy is made up basically of three major components: householders (who both consume goods and services and supply productive services), business firms (which hire productive services from householders and pay out income to them), and government (which buys goods and productive services, pays out income and modifies the flow of income through a variety of policies). How each component acts in our system depends largely upon economic incentives.

3. The circular flow of income in a private enterprise system can be broken down into three general types of flows: between business and the public, between the government and the public (including business), and between savers and investors.

   a. Business buys productive resources (labor, capital, and natural resources) from the public and pays them wages, interest and rent which the public uses to buy goods and services from business.

   b. The public pays taxes to government and the government provides services to the public and also buys productive resources from the public.

c. Many people save part of their income by putting it in banks which lend the money to business--which in turn pays interest and eventually repays the loan.

4. Certain basic economic questions related to allocation are resolved in some fashion in every society, although perhaps in no other way than by tradition. These questions are: (1) What and how much of each good and service shall be produced? (2) How shall these goods and services be produced? (3) How shall these goods and services be distributed among the population.

5. In a private enterprise system, it is the market which permits buyers and sellers to deal with one another, which translates demand and supply into a price system, and which is chiefly responsible for the way in which the basic economic questions are worked out. The market serves to determine largely what shall be produced, how much shall be produced, and who shall get what part of the production. However, government policies and factors which interfere with perfect competition also affect the allocation of resources.

a. The market is the chief allocating device for scarce productive resources. It determines largely how things shall be produced, and who shall get what part of the production.

b. Competition among producers determines how things will be produced in a private enterprise economy, since each producer will try to arrive at the most efficient use of productive resources in order to compete with others and make the greatest profits possible.

1) Competition exists where there are a number of sellers of a product or service and no single seller can dominate or control the market price.

2) In a competitive system, many of the producers and consumers do not have a perfect knowledge of prices and quality of goods and methods used by others to produce goods; consequently, the market system does not always work out in practice as described in theory.

3) Competition does not always lead to lower prices; it may actually lead to monopolistic practices and higher prices.

4) Wage contracts and minimum wage laws make it difficult to adjust wage rates to changes in the supply and demand for labor.

5) Collective bargaining by labor unions may help restore competition at times, or it may hurt competition.

6. Prices are affected by changes in supply and demand and price changes affect supply and demand.

a. Other things being equal, the price of a good rises when the good is in short supply as compared to the demand for the good and falls when the supply of the good is larger than the demand at the existing price.

b. Other things being equal, the lower the price, the greater the demand usually is; the higher the price, the less the demand usually is.

c. Other things being equal, the higher the price for a good, the larger the quantity which will become available for sale.

7. In all societies, people have certain economic goals and use their governments to help achieve these goals. Although some economic goals are very much alike, different societies place differing emphases upon them.

   a. In general, people try to sell their labor, land, or capital for the highest incomes possible in order to obtain the largest amount of desired goods and services possible.

      1) In general business firms try to maximize profits.

   b. People tend to work hardest at those jobs for which they receive the greatest incentives (monetary and non-monetary).

   c. The incentive to achieve the largest income possible is modified by other incentives such as a desire for security, a desire to remain in a certain section of a country, a desire for certain kinds of working conditions, a desire for more leisure, occupational preferences, a desire for prestige, etc.

8. By acting together, people can agglomerate their power.

9. When more of one productive resource is combined with a fixed amount of another, under any given state of technology, the output per unit of the first will eventually diminish.

10. Unless goods can be exchanged easily, people must remain fairly self-sufficient. Money promotes exchange and so specialization and division of labor and the higher productivity which accompanies such division of labor.

    a. Barter is inefficient; the development of a monetary system promotes exchange and so a division of labor and greater productivity.

       1) Money makes exchange easier than barter does since many objects which people might want to trade are not of equal value, do not last well, cannot be divided, or are hard to transport. Money serves as a medium of exchange, as a measure of value, and as a storer of value, and is divisible.

    b. Money is wanted for what it can buy; paper money has no value in and of itself.

    c. Demand deposits or checkbook money makes up the largest part of the U.S. money supply.

SKILLS

1. Attacks problems in a rational manner.

   a. Sets up hypotheses.

2. Locates information efficiently.

   a. Uses card catalogue to locate books on a topic.

b. Chooses appropriate reference books and sources to locate information.

3. Gathers information effectively.

a. Uses a variety of sources of information.

b. Interprets tables, graphs, and charts.

c. Gains information by studying pictures, films, realia and things seen around him.

d. Gains information through interviews and field trips.

4. Organizes and analyzes information and draws conclusions.

a. Uses models to make sense out of complex data.

b. Checks back over reasoning against basic principles of logic and looks for inconsistencies, limitations of data, and irrelevancies.

ATTITUDES

1. Is curious about social data.

2. Is sceptical of "conventional truths" and demands that widely-held and popular notions be judged in accordance with standards of empirical validation.

OBJECTIVES

G. The American economy is made up basically of three major components: householders (who both consume goods and services and supply productive services), business firms (which hire productive services from householders and pay out income to them), and government (which buys goods and productive services, pays out income and modifies the flow of income through a variety of policies). How each component acts in our system depends largely upon economic incentives.

A. IS CURIOUS ABOUT SOCIAL DATA.

S. Gains information by studying pictures, films, realia and things seen around him.

TEACHING PROCEDURES

MATERIALS

Initiatory Activities

1. Prepare - or have a student prepare -- a bulletin board around the theme "The American Economy." Include in this display many pictures of products and services, conflict, poverty, taxation, luxuries, with as wide a diversity of examples as can be found.

2. In order for students to see what the American economy is like, give each student a magazine as appropriate to his reading level as possible and have a 15 minute "browse" session. During this time have pupils look for as many examples as possible of economic activity. In summary discussion have pupils explain their findings.

   Or show slides or pictures of economic activity in the United States. Ask: What is the American economy like?

3. Have students write a brief paragraph answering the question, "What Is The American Economy?"

G. In all societies, people have certain economic goals and use their governments to help achieve these goals. Although some economic goals are very much alike, different societies place differing emphases upon them.

G. Certain basic economic questions related to allocation are resolved in some fashion in every society, although perhaps in no other way than by tradition. These questions are: (1) What and how much of each good and service shall be produced? (2) How shall these goods and services be produced? (3) How shall these goods and services be distributed among the population?

S. Sets up hypotheses.

G. In a private enterprise system, it is the market which permits buyers and sellers to deal with one another which translates demand and supply into a price system, and which is chiefly responsible for the way in which the basic economic questions are worked out. The market serves to determine largely what shall be produced, how much shall be produced, how it shall be produced, and who shall get what part of the production. However, government policies and factors which interfere with perfect competition also affect the allocation of resources.

4. Review from Unit 1:
   a. The goals of the American economic system.
   b. The basic economic questions facing the people in any economic system.

   Have students set up hypotheses about how the four basic questions are resolved in the American economic system. Have students write these down. Tell them that they should check these hypotheses as the unit progresses.

S. Uses a variety of sources of information.

S. Chooses appropriate reference books and sources to locate information.

S. Uses card catalogue to locate books on a topic.

A. IS CURIOUS ABOUT SOCIAL DATA.

S. Checks back over reasoning against basic principles of logic and looks for inconsistencies, limitations of data, and irrelevancies.

5. Ask students how they might verify their description of the American economy. List their methods and sources of information. Ask: Where might we find these sources of information? Teachers should start a classroom library of economic materials such as almanacs, dictionaries, pamphlets and magazines. (Discuss the particular uses of different type references.) Students might help by bringing to class sources of information which could be added to the classroom library. Volunteers might check the library card file for books on economics.

6. If an economic understandings pretest has not already been given, one might be given at this time. The teacher may wish to use a modified version of the "Stalnaker" Test or the teacher may wish to write a test which he feels would better evaluate economic concepts which he has established for this unit. (Note areas of special weakness and save results to compare with a similar post-test given at the end of the unit.)

Test of Economic Understandings-Joint council on Economic Education, published by Siria, 1963.

7. Ask the class: If you were to explain the characteristics and interrelationships of the American economy to someone who had never been to the United States, how might you do it? (Use a characteristic which has been raised in class previously, i.e., profit,wages). Say: The question I've just asked is quite difficult; let's start with an easier one.

   To get students thinking about the nature of explanations, ask a member of the class to explain why he isn't at home today. Get as many explanations as possible. Which is the "right" reason? How do you know it is "right?" Might there be more than one "right" explanation? How do we tell this?

   Discuss: What is a good explanation? How do we know when we have explained something well?

A. IS SCEPTICAL OF "CONVENTIONAL TRUTHS" AND DEMANDS THAT WIDELY HELD AND POPULAR NOTIONS BE JUDGED IN ACCORDANCE WITH STANDARDS OF EMPIRICAL VALIDATION.

G. Economic models simplify the economy to make it easier to understand.

S. Uses models to make sense out of complex data.

G. People tend to work hardest at those jobs for which they receive the greatest incentives (monetary and non-monetary).

G. In general people wish to sell their labor, land, or capital for the highest incomes possible in order to obtain the largest amount of desired goods and services possible.

8. Ask: Will an explanation which is "correct" today always be correct? Can you think of explanations which were once considered correct which have now proved to be incorrect. (i.e., earth center of universe, earth is flat.) What was wrong with these explanations?

   You might use an excerpt from Devils, Doctors, and Drugs. This book contains many interesting examples of changing explanations in the field of medicine.

   Haggard, Devils, Doctors, Drugs (paperback). New York: Pocket Books, 1929.

9. Go back to Activity 7 and ask again how pupils might explain certain economic characteristics of the American economy. If they do not bring forth the idea of models, ask them how they learned about certain geographic concepts. They will probably mention globes and maps. Ask: Why are these used? Through further discussion students should realize that explaining the total economy could be very difficult and that to understand all of it we might look at it through smaller parts and simpler relationships.

   Tell the students that they will be using economic models to find out how the American economy answers the four basic questions of: What shall be produced? How much? How? and for whom? These economic models will be developed through the playing of economic games. These games will require students to follow directions very carefully; otherwise, the models will be distorted and pupils will get a false picture of our economy.

10. Review the idea of incentives as a characteristic of our economic system. Conduct a discussion of incentives in the American economy. When students mention "money", ask: What use does money fill? Imagine an economy without money. What are the incentives now? (Pupils might mention food, shelter and clothing)

G. The incentive to achieve the largest income possible is modified by other incentives such as a desire for security, a desire to remain in a certain section of a country, a desire for certain kinds of working conditions, a desire for more leisure, occupational preferences, a desire for prestige, etc.

G. In general business firms try to maximize profits.

A. IS CURIOUS ABOUT SOCIAL DATA.

G. Prices are affected by supply and demand.

An alternative activity would be to have students write a brief paragraph in reaction to the question: Why do people work?

11. Ask students to imagine the country of "Lower Slobbovia." Suppose there is just one crop in this country -- wheat. (You eat it, press it into bricks for homes and press it into cloth for clothing.) What is your incentive for being a wheat farmer?

12. As an introduction to the economic games tell the students that they are wheat farmers who live in Lower Slobbovia, and that each of them raises 20 bushels of wheat on his farm. Say: After the crop of 20 bushels of wheat comes in, you pay a laborer 5 of those bushels for helping plant and harvest the crop. How much do you have left? (15) For the time being, call this "profit". Give pupils introductory exercises a, b, and c. Spend only as much time on these exercises as you think necessary. Differentiate between the various explanations of profit. Help students see that they are using only one definition.

13. If students understand the basic concept of maximizing incomes, they are ready to begin game #1.

    a. Have the students pair off and turn their desks to face one another. In each pair, one will be the farmer, the other the laborer. (Let them choose). Before distributing the game materials, remind pupils that these games are explanations of a sort. They will have to follow directions carefully and observe what happens to learn from them. Remind them that they will be reporting the results of their game to the rest of the class in a later discussion.

b. For each simulation game the teacher should have an introduction for himself and a set of directions for farmers and for laborers. For game #1 farmers should be given: (1) The bargaining procedures for farmers, (2) A production chart, (3) A profit table. Laborers should be given: (1) The bargaining procedures for laborers, (2) A laborer's "preference" chart, (3) A series of questions for the laborer.

c. In order for the game to be played, the farmer must have a completed profit table. This table may be completed by each student-farmer or may be given to him by the teacher. (Some students find it difficult to do the computations quickly. We suggest that the teacher prepare the calculations in order to facilitate the playing of the game.)

d. After the games and directions have been distributed, the teacher should pause to have students read the directions and to answer any student questions which may arise. Tell the students that the farmer begins the game. Remind them that when laborers give farmers their offers, they do not give wage rates but only hours for whatever wage rate the farmer offers to them.

e. After the game has been played and agreements have been reached, have the farmers and the laborers answer the questions given to them.

f. After the game, conduct a discussion to synthesize the results. What happened? (basic description). Did you two agree? Where? How? How many agreed at this price? (All should - if not, find out why not). Why? (i.e., Why did you agree at this point?)

G. When more of one productive resource is combined with a fixed amount of another, under any given state of technology, the output per unit of the first will eventually diminish..

S. Interprets charts.

S. Interprets charts.

G. Other things being equal, the higher the price for a good, the larger the quantity which will become available for sale.

G. In general business firms try to maximize profits.

G. Other things being equal, the higher the price for a good, the larger the quantity which will become available for sale.

G. Prices are affected by changes in supply and demand and price changes affect supply and demand.

g. The teacher could show a transparency of the farmer's production chart and have farmers describe any relationships which they have been able to see.

h. The teacher might also project a transparency of the laborer's preference chart. Have laborers describe any relationships which they see from the chart.

i. After discussing both the production chart and the laborer's preference chart, raise questions as to why both farmers and laborers acted as they did. What would happen if they acted differently?

14. Ask the students to guess what would happen if they didn't have to follow the rules exactly as they were written. Then have students replay the game. Tell them that they are free to reach any possible agreement, given their production charts and wage rates which must be from 10 - 15 bushels per hour.

a. After the game has been replayed, ask them to describe what happened. Ask the farmers if they did better or worse. Why? Ask the laborers the same questions; or, then ask: Can we draw any conclusions from the game?

b. Compare game one as played by the rules and when the rules are modified. Ask: Were these games realistic? What do we mean by realistic? Do any of the conclusions drawn from the game help us to understand the American economy? Which ones? Why?

S. Interprets tables, graphs, and charts.

G. Prices are affected by supply and demand. Other things being equal, the lower the price, the greater the demand usually is; the higher the price, the less the demand usually is.

G. Wage contracts and minimum wage laws make it difficult to adjust wage rates to changes in the supply and demand for labor.

G. Competition exists where there are a number of sellers of a product or service and no single seller can dominate or control the market price.

G. By acting together, people can agglomerate their power.

15. After discussing game #1, ask the students what game #2 might be like. After pupils have made their guesses, introduce game #2.

    a. In game #2 farmers receive directions, a profit table and a production chart. Laborers receive a set of directions and a laborer's preference chart. Again, farmers begin the game and may use a precalculated profit table.

    b. If game #2 is played correctly, there will be laborers who will not be hired. Ask the laborers who were not hired: Why weren't you hired? Also discuss: Was this game realistic, given what you know about the American economy? (Discuss wage contracts and minimum wage laws and their effect on employment.)

    c. Let the students replay the game. Tell the laborers that they can either bargain for themselves or cooperate with one another. Tell the farmers that they are free to hire as many laborers offering an 8-hour work day as is possible up to 12. This means that farmers must calculate profits and that they will not be able to merely look at their previous pre-calculated profit table. Note: Tell laborers to talk with all farmers so as to get their best deal. Farmers may hire only up to 12 laborers as their production charts give them only that much information. Farmers calculating profits must take into consideration unequal wage costs if laborers are hired for different wage offers.

G. In general business firms try to maximize profits.

G. In general people try to sell their labor, land, or capital for the highest incomes possible in order to obtain the largest amount of desired goods and services possible.

G. By acting together, people can agglomerate their power.

G. Competition among producers determines how things will be produced in a private enterprise economy, since each producer will try to arrive at the most efficient use of productive resources in order to compete with others and make the greatest profits possible.

G. Prices are affected by supply and demand.

d. After game #2 has been replayed, discuss the resulting agreements. Ask: Did any student do better? Did any student do worse? Were any of you able to cooperate? Why? Why not? Farmers, were you able to hire your maximum of twelve, 8-hour days of labor? Why? Why not?

16. Ask the students if the replayed game was realistic. Why or Why not? Ask the students what they think game #3 might be like. Introduce game #3.

a. In game #3 there are 2 farmers and one laborer. The farmers compete with each other for labor. These farmers have unequal production charts and profit tables. In a sense, you have unequal competition. The laborer has only a set of bargaining procedures. Each farmer has a set of bargaining procedures along with a page containing both his production chart and profit table. As the game is played farmers should not talk with one another or collusion would occur.

b. After game #3 has been played, ask students to explain their agreements. Ask: Did all of you reach satisfactory agreements? Why or Why not?

G. By acting together, people can agglomerate their power.

G. Collective bargaining by labor unions may help restore competition at times, or it may hurt competition.

G. Competition does not always lead to lower prices; it may actually lead to monopolistic practices and higher prices.

G. In a competitive system, many of the producers and consumers do not have a perfect knowledge of prices and quality of goods and methods used by others to produce costs; consequently, the market system does not always work out in practice as described in theory.

G. Other things being equal, the price of a good rises when the good is in short supply as compared to the demand for the good and falls when the supply of the good is larger than the demand at the existing price.

G. Other things being equal, the lower the price, the greater the demand usually is; the higher the price, the less the demand usually is.

c. Replay game #3. Tell farmers that they can cooperate if they wish. Tell laborers that they too may cooperate. (This cooperation can lead to collusion on the part of farmers and union organization by laborers.)

d. After the game ask students to explain what happened. Did any farmers cooperate? Why? Is this realistic? Why? Were any laborers able to cooperate? Why? Did farmers gain through cooperation? Did laborers gain by cooperation? Can we draw any conclusions from these results?

17. After the students have finished playing the games, ask: Did the games help explain characteristics of the American economy? You might list the ideas or relationships which pupils believe the games developed.

G. The market is the chief allocating device for scarce productive resources. It determines largely how things shall be produced, and who shall get what part of the production.

G. The circular flow of income in a private enterprise system can be broken down into three general types of flows: between business and the public, between the government and the public (including business), and between savers and investors.

G. Business buys productive resources (labor, capital, and natural resources) from the public and pays them wages, interest and rent which the public uses to buy goods and services from business.

G. The public pays taxes to government and the government provides services to the public and also buys productive resources from the public.

G. Many people save part of their income by putting it in banks which lend the money to business -which in turn pays interest and eventually repays the loan.

G. Barter is inefficient; the development of a monetary system promotes exchange and so a division of labor and greater productivity.

After listing these, ask pupils what was left out of the games. Perhaps you could put a simple flow chart on the board. This flow chart would include the farmer and one laborer. You might draw arrows to indicate that the farmer produced wheat and used labor to produce it. You might show the laborer giving his labor and receiving wheat for his labor.

Upon showing these over-simplified relationships, ask: Is this chart complete? What is left out? You may have to be more specific in your questioning. (i.e., 1. Would we accept wheat as payment for our services? 2. Is labor the only factor needed in production? 3. Is profit just production minus labor costs? 4. Does government have anything to say about production?) The students should see that although certain characteristics of our market economy are developed through these games, others are not. (The extent to which other economic concepts and generalizations are to be developed will depend on the objectives established for this unit by a specific teacher.)

18. A teacher may at this point develop the concepts and relationships concerning money by using a series of activities answering such questions as: 1. What is money? 2. What functions does it serve? 3. What gives money its value? 4. Where does money come from? 5. What functions do banks and other financial institutions serve in our economy? 6. Who controls the banks and other financial institutions? 7. How is the supply of money controlled so that enough

G. Money makes exchange easier than barter does since many objects which people might want to trade are not of equal value, do not last well, cannot be divided, or are hard to transport. Money serves as a medium of exchange, as a measure of value, and as a storer of value, and is divisible.

G. Money is wanted for what it can buy; paper money has no value in and of itself.

G. Unless goods can be exchanged easily, people must remain fairly self-sufficient. Money promotes exchange and so specialization and division of labor and the higher productivity which accompanies such division of labor.

G. Demand deposits or checkbook money makes up the largest part of the U.S. money supply.

exists to purchase the goods and services produced in our economy? (Obviously many more questions could be raised concerning money and banking, and the teacher could expand or contract these questions to the extent that time and objectives were limited. What is done should depend in part upon whether pupils have studied the Center's 4th grade course.) Some activities which a teacher could use to develop concepts and generalizations about money might be to:

a. Ask each student to write a definition of money. These definitions could be read aloud and put on the chalk board by the teacher or a class secretary. Have the class compare these definitions and see if a composite definition can be reached which would approximate an economist's definition of money.

b. Ask: Suppose all of the money in the country should mysteriously be destroyed or disintegrate over night. Would the U.S. suddenly be a poor country? Why or Why not? If money isn't what makes us wealthy, why do we use it?

c. If the students in the previous discussion didn't bring up the functions of money, ask them now to describe how money is used. If they are unable to see the multiple functions of money, they could read pages 309 - 318 in Our American Economy.

Lindholm and Driscoll, Our American Economy, N. Y. Harcourt Brace and Co., 1959.

d. Or have students draw up a list of goods and services which they or their families might purchase. After each good or service, have students indicate how they or their families would pay for it. The discussion following this brief exercise should help students understand that coins, bills, checks and credit might

G. Many people save part of their income by putting it in banks which lend the money to businesses which in turn pay interest and eventually repay loans.

S. Gains information through interviews and field trips.

all be used. Items should be chosen for this exercise which would lead students to see that although many small purchases are made using coins & folding money, larger purchases require credit and monthly payments -- usually made by check.

e. After students recognize that most major purchases in our society are paid for through checks, ask: Will most persons accept checks for the purchase of goods and services? Which kinds of checks are most acceptable? Why is this so?

f. Ask: Why isn't "Monopoly" money acceptable for the purchase of goods and services? Could "Monopoly" money ever be acceptable?

g. Have students compare the differences between U.S. currency, play money, credit cards, and checks.

h. In order to confirm the fact that the vast bulk of the family's and nation's business is done through checks, have students read pages 16 to 19 in Money: Master or Servant?

The Federal Reserve Pamphlet: Money: Master or Servant? May, 1955. Available from nearest Federal Reserve Bank.

i. After students see that most purchases of goods and services are paid for through checks drawn on commercial banks, ask: Where do banks get their money? Who runs the banks? If students are unable to answer these questions, interested students might interview bank officials. The questions for this interview could be drawn up by each class.

j. Or have the class take a field trip to a local bank. The field trip should help students see the role commercial banks play in our economy and how commercial banks differ from savings and loan associations, small loan companies, and investment firms.

G. Many people save part of their income by putting it in banks which lend the money to businesses which in turn pay interest and eventually repay the loan.

k. Many banks have written materials which are available in classroom quantities. They spell out the functions and characteristics of commercial banks. The Northwestern National Bank of Minneapolis publishes such materials.

Money, Credit and Banking--Money Talks, from Paul S. Amidon Associates, Mpls.

l. Interested students might interview investment firms in the local area. These firms frequently have written materials which could be brought back for general class use.

The reading, interviews, or field trips should help the class understand that although banks are private institutions, they are partially controlled in their operations by laws which were passed to safeguard the public.

m. The Federal Reserve System has movies which, although somewhat dated, can be used to show the relation between commercial banks and the Federal Reserve System. Reading materials can also be secured from district Federal Reserve banks.

Note: We have purposely excluded any activities on how commercial banks "create" money or on how the Federal Reserve System can expand or contract the money supply. These ideas are difficult; moreover, they are dealt with in the last unit of the tenth grade course. Teachers who feel that their students are able to handle these ideas, should feel free to develop activities which go beyond the unit's suggestions.

19. Another series of questions could be raised and activities developed on the role of government in the economy. However, teachers should note that some of these relationships are developed in the units on the farm problem, auto industry, and poverty and thus could be left to the later units. Further ideas about the role of the government are taught in the tenth grade.

20. Review the concepts and generalizations of the unit. For example, you might break the class into groups of 5 or 6 students. Ask each group to summarize the ideas which they believe have been developed in the unit and to indicate what ideas are still vague in their minds. The teacher could ask each group to report their conclusions and questions. Then clarify misconceptions or gaps in a general class discussion.

21. Administer a unit test.

Game #1: ONE FARMER, ONE LABORER

Introduction
by
Douglas Marvy

In game #1 a simplified version of a competitive market is introduced to the student. The game focuses entirely on one market (the market for labor services) in which one supplier (the laborer) and one demander (the farmer) participate.

This introduction is meant to provide the reader with an overall view of the game in operation. Since, by construction, the game is a set of disjointed instructions for the participants to follow, familiarity with how the disjointedness interacts to result in a "playable" game is helpful. As an aid in linking general knowledge of the game's operation with a more detailed study of the various rules and charts that comprise the game, parenthetical comments referring to the components of the game are added, where needed, throughout the remainder of this introduction.

The laborer and the farmer each comes to the market with his own information and his own rules of behavior. The laborer comes to the market knowing for any amount of wheat offered him per hour, how many hours he would like to work. (This information is given to him in the "laborer's preference chart".) It is assumed that the more wheat per hour offered the laborer the more he will want to work. The farmer comes to the market knowing how much wheat his land can produce for any given amount of hours spent working on the land (i.e. he knows what is technologically possible--this information is given him in the "production chart").

The farmer is told to suggest a wage rate (farmer's rule 1)--and the game begins. The farmer and laborer react to the suggested wage rate by revealing to each other the number of hours they demand and offer for employment respectively (the laborer by consulting his preference chart per his rule 2, and the farmer by using his production chart and profit table per his rules 3 and 4).

The price mechanism then operates to balance the desires of the farmer and laborer.

1. If the farmer demands more labor than the laborer offers to supply the farmer raises the wage rate (farmer's rule 6b). As a result of the higher wage rate the farmer de-

mands less labor and the laborer offers to supply more labor.

2. If the farmer demands less labor than the laborer offers to supply, the laborer lowers the wage rate (laborer's rule 4c). As a result of the lower wage rate the farmer demands more labor and the laborer offers to supply less labor.

The wage rate is lowered or reduced accordingly until the farmer's demand equals the laborer's offer (farmer's rule 6a and laborer's rule 4a).

The game is over and the laborer may go to work. The "economy" is in equilibrium with a mutually acceptable price having been argued upon and with no tendency for this price to change.

Econ. Game #1

"The Bargaining Procedures for Farmers"

1. You begin the game by offering to the laborer a wage rate of 10 or more but not more than 15. (You may offer 10, 11, 12, 13, 14 or 15 bushels of wheat per hour.)

2. The laborer will tell you how many hours he will work for you at that rate.

3. In order for you to determine whether or not his offer at your wage rate is best for you, you must consult your profit table. In your profit table, fill in the one column for the wage rate you offered using the enclosed production chart. (In other words, if you offered 10 bushels fill in the entire column under "10" with profit you would get at each hour. The teacher may have already done these calculations for you.)

4. Look up and down your column. Find the most profitable number of hours of labor you could employ at the proposed wage rate. This is your demand (i.e. "I want you to work _____hours.").

5. Compare your demand with the number of hours of labor offered you by the laborer. (Remember you first offered him a wage. He told you how many hours he would work for that wage. You next looked at the # of hours which would be best for you.)

   a. If his offer equals your demand, hire the laborer for this amount of hours at the wage rate you mentioned.

   b. If his offer is for fewer hours than your demand, attempt to get more work offered you by proposing a wage rate one bushel per hour higher than your previous offer. Then go into another round of bargaining.

   c. If his offer is for more hours than your demand, consult your profit table. Ask yourself if you would be better off having him work fewer hours. If so, offer him a wage rate one bushel lower and begin another round of bargaining.

Game #1

PROFIT TABLE

NUMBER OF HOURS LABORER WORKS

WAGE RATE (in bushels of wheat per hour)	0	1	2	3	4	5	6	7	8	9	10	11	12
10	0	10	19	27	34	40	45½	50	53½	56	57½	58	57
11	0	9	17	24	30	35	39½	43	45½	47	47½	47	45
12	0	8	15	21	26	30	33½	36	37½	38	37½	36	33
13	0	7	13	18	22	25	27½	29	29½	29	27½	25	21
14	0	6	11	15	18	20	21½	22	21½	20	17½	14	9
15	0	5	9	12	14	15	15½	15	13½	11	7½	3	-3

"FARMER'S QUESTIONS AND PRODUCTION CHART"

NUMBER OF HOURS	BUSHELS OF WHEAT PRODUCED
0	0
1	20
2	39½
3	57
4	74
5	90
6	105½
7	120
8	133½
9	146
10	157½
11	168
12	177

Questions:

1. What seems to be true concerning the # of hours of labor hired and the # of bushels of wheat produced? Why?

2. What seems to be true concerning your production, your profit and your wages paid to laborers? Why?

Game #1

The Bargaining Procedures for Laborers

1. The farmer begins the game. Wait for the farmer to offer you a wage.

2. After the farmer offers you a wage, give the farmer your offer. (The number of hours you want to work at his wage--using the enclosed preference chart.) Look across from the wage rate he offers you. You must give the number of hours listed. (You are not allowed to bargain over wage rates. The farmer tells you the wage rate, you tell him the # of hours, given that wage rate.)

3. The farmer will then tell you how many hours he would like you to work at that wage rate.

4. a. If the farmer's demand equals your offer, you will be hired.

   b. If the farmer's demand is for more hours than your offer, tell him no and await a higher wage rate proposal. Then go into another round. (i.e. return to 2.)

   c. If the farmer's demand is for fewer hours than your offer, then the farmer will have to make another offer. Wait for him to act.

LABORER'S "PREFERENCE" CHART

WAGE RATE (in bushels of wheat per hour)	HOURS laborer wishes to work
10	2
11	3
12	5
13	8
14	11
15	11

Game #1

QUESTIONS FOR LABORER

1. What does your chart say? Write down here statements which can be made about the numbers on your chart. (i. e. What trends do you see? What kind of behavior do you as a laborer show here?)

2. What wage do you wish the farmer had offered? Why?

3. How would you explain why the laborer behaves this way?

4. Does it make any difference in the game that the laborer behaves in this way? Why or why not?

Game #2

Introduction (For Teachers Only)

Game 2 present a hypothetical bargaining situation between one farmer and many (11) laborers. The framework in which the bargaining takes place is identical to that of the first game. Each participant in the "economy" reacts to the suggested wage rate by consulting his personal behavior rules, and the price adjustment mechanism functions exactly as in game #1 to balance the conflicting interests of the farmer and laborers.

The major change in game 2 (relative to game 1) is in the laborers' rules of behavior. When confronted with a wage rate, an individual laborer no longer decides how many hours he would like to work. The laborer's choice is now simply a yes or no choice--does he or does he not want to work an eight-hour day at the suggested wage rate. Assuming that the laborers have different preferences (i. e. will enter the labor market at different wage rates), the game then shows that the phenomenon of more laborers entering the labor market as the wage rate rises reacts logically with the price adjustment mechanism in the same manner as if a single laborer were offering more hours for employment as the wage rate rose. The wage rate is accordingly changed from bushels of wheat per hour to bushels of wheat per eight-hour day. And the farmer's production chart now relates bushels of wheat produced per eight-hour day worked on his land rather than (as in game 1) bushels of wheat produced per hour worked.

The other significant change relative to game 1 is the way in which the wage rate is adjusted downward. Recall that the game requires a fall in the wage rate when the amount of labor offered exceeds the amount of labor demanded by the farmer. The hiring process can be thought of as taking place on a first-come-first-serve basis. If more laborers desire to work at the suggested wage rate than the farmer wants to hire, the farmer hires whomever comes first. If a laborer wanted to work, didn't get hired and also will work for one bushel of wheat less per day, he suggests a lower wage rate (laborer's rule 3b).

Game #2

The Bargaining Procedures for Laborers

1. The farmer again begins the game--await farmer's wage rate proposal.

2. Use the enclosed preference chart.

   a. If the chart says that you wish to work at the proposed wage rate, announce your offer to the farmer.

   b. If the chart says that you do not wish to work at the proposed wage rate, await a different proposal.

3. a. If at the proposed wage rate you are hired, go to work and await a new proposal.

   b. If you are not hired at the proposed wage rate, and if your chart says you would like to work at this wage rate, and if your chart says you are willing to work for a wage rate one bushel less than the proposed wage rate, and if a proposal to lower the wage rate has not yet been made (on this round) by someone else, then announce a wage rate one bushel less than the proposed one.

4. If, at any time, a new wage rate is proposed, return to 2.

Game #2

Laborer #1's Preference Chart		Laborer #2's Preference Chart	
Wage Rate	Desire to work an 8-hour day	Wage Rate	Desire to work an 8-hour day
10	Yes	10	Yes
11	Yes	11	Yes
12	Yes	12	Yes
13	Yes	13	Yes
14	Yes	14	Yes
15	Yes	15	Yes

Laborer #3's Preference Chart		Laborer #4's Preference Chart	
Wage Rate	Desire to work an 8-hour day	Wage Rate	Desire to work an 8-hour day
10	No	10	No
11	Yes	11	No
12	Yes	12	Yes
13	Yes	13	Yes
14	Yes	14	Yes
15	Yes	15	Yes

Laborer #5's Preference Chart		Laborer #6's Preference Chart	
Wage Rate	Desire to work an 8-hour day	Wage Rate	Desire to work an 8-hour day
10	No	10	No
11	No	11	No
12	Yes	12	No
13	Yes	13	Yes
14	Yes	14	Yes
15	Yes	15	Yes

Laborer #7's Preference Chart		Laborer #8's Preference Chart	
Wage Rate	Desire to work an 8-hour day	Wage Rate	Desire to work an 8-hour day
10	No	10	No
11	No	11	No
12	No	12	No
13	Yes	13	Yes
14	Yes	14	Yes
15	Yes	15	Yes

Laborer #9's Preference Chart		Laborer #10's Preference Chart	
Wage Rate	Desire to work an 8-hour day	Wage Rate	Desire to work an 8-hour day
10	No	10	No
11	No	11	No
12	No	12	No
13	No	13	No
14	Yes	14	Yes
15	Yes	15	Yes

Laborer #11's Preference Chart

Wage Rate	Desire to work an 8-hour day
10	No
11	No
12	No
13	No
14	Yes
15	Yes

Game #2

"The Bargaining Procedures for Farmers"

1. Farmers, you begin the game by offering to the laborers a wage rate of 10, 11, 12, 13, 14, or 15 bushels of wheat for one eight hour day's work.

2. Receive offers from the laborers. Each laborer who desires employment will tell you that he will work at this rate.

3. Look up and down your profit column, and find the most profitable number of laborers you could employ at the proposed wage rate. This is your demand.

4. Compare your demand with the number of labor units offered you.

5. a. If the offers equal your demand, hire all labor offered you.

   b. If the offer from laborers is less than your demand for labor, offer a wage rate one bushel higher than the previous wage rate.

   c. If the offer is more than you demand, hire the amount equal to your demand, and await a counter-proposal. Then go into another round (i.e. return to 2).

Game #2

PROFIT TABLE

Amount of Labor
(in 8-hour man days)

WAGE RATE (in bushels of wheat per 8-hour day)	0	1	2	3	4	5	6	7	8	9	10	11	12
10	0	10	19	27	34	40	45½	50	53½	56	57½	58	57
11	0	9	17	24	30	35	39½	43	45½	47	47½	47	27
12	0	8	15	21	26	30	33½	36	37½	38	37½	36	21
13	0	7	13	18	22	25	27½	29	29½	29	27½	25	15
14	0	6	11	15	18	20	21½	22	21½	20	17½	14	9
15	0	5	9	12	14	15	15½	15	13½	11	7½	3	3

Game #2

Number of 3-hour man days used	BUSHELS OF WHEAT PRODUCED
0	0
1	20
2	39
3	57
4	74
5	90
6	105½
7	120
8	133½
9	146
10	157½
11	168
12	177

Game #3

Introduction (For Teachers Only)

In game 3 the bargaining for labor services takes place between one laborer and two farmers. (However, as games 1 and 2 together bring out, the laborer can now be thought of as a "representative" laborer who is bargaining for the entire labor force, and whose hours of labor offered represent the number of laborers offering their labor at the suggested wage rates.)

In game 2, the introduction of more than one laborer required a change in the rules of behavior which caused the wage rate to be adjusted downward. This was to be expected since in the downward adjustment it is the laborers who are active and the farmer merely plays the passive role of awaiting a new wage rate proposal. Analogously, when more than one farmer participates in the bargaining, it is the adjustment of the wage rate upward where the most significant changes in the rules of the game take place. And, once again, an element of "realism" results when the additional participant enters the market. For it is no longer the wage rate; it is the farmer who finds that there is no labor to hire (and therefore he has zero profits) who raises it.

The additional complexity in the laborers' rule 3 c. is necessary because of the need for explicitly stating a procedure whereby the laborer goes from one farmer to another with his offers. And the time element in the farmers' rule 4, is necessary because conceivably one farmer may hire all the hours the laborer offers and the laborer will not even come to the other farmer seeking additional employment. These changes cannot be classified as fundamental; they are incorporated in order to make the game "playable," and many other methods could have been used for bringing about the actual confrontation of the farmers and laborer in the market.

Game #3

Bargaining Procedures for Laborers

1. Await a wage rate proposal.

2. Give any farmer your offer (the number of hours you want to work at his wage--using the attached preference chart). Look across from the wage rate he offers you. You must give the number of hours listed.

3. (a) If the farmer's demand is greater than your offer, tell him no, await a new proposal.

   (b) If the farmer's demand equals your offer, you will be hired. Await a new proposal.

   (c) If the farmer's demand is less than your offer, go to work for the number of hours he demands, then proceed to the next farmer. At the proposed wage rate, offer this farmer the number of hours shown on your preference chart less the number of hours you are already working. (In other words, if you want to work "8" and have been hired for "5", you now want to work "3" more hours in order to total "8")

      1. same as 3a

      2. same as 3b

      3. If the farmer's demand is less than your offer, try to get more of your work demanded by proposing a wage-rate one bushel less than the previous proposal.

4. IF AT ANY TIME A NEW WAGE RATE IS PROPOSED, RETURN TO 2.

LABORER'S PREFERENCE CHART

Wage Rate (In bushels of wheat per hour)	Hours Laborer wishes to work
10	2
11	3
12	5
13	8
14	11
15	11

Game #3

The Bargaining Procedures for Farmers

1. You or the other farmer begin the game by proposing a wage rate of 10, 11, 12, 13, 14, or 15 bushels of wheat per hour.

2. Look up and down the column of your profit table at your proposed rate. Find the most profitable number of labor units you could employ at this rate. This is your demand. Announce your demand to the laborer (i.e., tell him how many hours you want him to work).

3. Receive offer from laborer of the number of hours he will work. (If you receive no offer after one-half minute, consider this an offer of zero.)

4. Compare your demand with the number of hours offered you.

5.
   a. If the offer equals your demand, hire the laborer.

   b. If the offer falls short of your demand, propose a wage rate one bushel higher than the previous proposal.

   c. If the offer is greater than your demand, try to hire the laborer for the number of hours equal to your demand. If he accepts, hire him and await new proposal. If he does not accept, await a new proposal.

6. If at any time a new wage rate is proposed, return to 2.

Farmer #1

PRODUCTION CHART

Number of hours used (man hours per day)	Bushels of wheat produced
0	0
1	17
2	33
3	48½
4	63
5	76½
6	89
7	100½
8	111
9	120
10	128
11	135

PROFIT TABLE

Number of Man Hours Used Per Day

WAGE RATE (bushels of wheat per hour)	0	1	2	3	4	5	6	7	8	9	10	11
10	0	7	13	18½	23	26½	29	30½	31	30	28	25
11	0	6	11	15½	19	21½	23	23½	23	21	18	14
12	0	5	9	12½	15	16½	17	16½	15	12	8	3
13	0	4	7	9½	11	11½	11	9½	7	3	-2	-8
14	0	3	5	6½	7	6½	5	2½	-1	-6	-12	-19
15	0	2	3	3½	3	1½	-1	-4½	-9	-15	-22	-30

The Bargaining Procedures for Farmers

1. You or the other farmer begin the game by proposing a wage rate of 10, 11, 12, 13, 14, or 15 bushels of wheat per hour.

2. Look up and down the column of your profit table at your proposed wage rate. Find the most profitable number of labor units you could employ at this rate. This is your demand. Announce your demand to the laborer (i.e., tell him how many hours you want to work).

3. Receive offer of laborer. (If you receive no offer after one-half minute, consider this an offer of zero.)

4. Compare your demand with the number of hours offered you.

5.
   a. If the offer equals your demand, hire the laborer.

   b. If the offer falls short of your demand, propose a wage rate one bushel higher than the previous proposal.

   c. If the offer is greater than your demand, try to hire the laborer for the number of hours equal to your demand. If he accepts, hire him and await a new proposal. If he does not accept, await a new proposal.

6. If at any time a new wage rate is proposed, return to 2.

Game #3

Farmer #2

PRODUCTION CHART

Number of hours used (man hours per day)	Bushels of wheat produced
0	0
1	20
2	39
3	57
4	74
5	90
6	105½
7	120
8	133½
9	146
10	157½
11	163

PROFIT TABLE

Number of Man Hours Used Per Day

Wage Rate (Bushels of wheat per hour)	0	1	2	3	4	5	6	7	8	9	10	11
10	0	10	19	27	34	40	45½	50	53½	56	57½	58
11	0	9	17	24	30	35	39½	43	45½	47	47½	47
12	0	8	15	21	26	30	33½	36	37½	38	37½	36
13	0	7	13	18	22	25	27½	29	29½	29	27½	25
14	0	6	11	15	18	20	21½	22	21½	20	17½	14
15	0	5	9	12	14	15	15½	15	13½	11	7½	3